

U.S.S.N. 10,810,920

Claim Amendments

Please amend claims 1, 9, and 17 as follows:

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Listing of Claims

1. (currently amended) A method of preventing electrostatic discharge damage to a photomask, comprising the steps of:

providing a mask substrate;

providing a pattern-forming material on said mask substrate;

providing patterned light-transmissive exposure regions in said pattern-forming material; and

providing at least one ion implantation region in said mask substrate by implanting ions into said mask substrate, wherein said at least one ion implantation region comprises at least one of said patterned light-transmissive exposure regions.

2. (original) The method of claim 1 wherein said mask substrate is quartz or calcium fluoride.

3. (original) The method of claim 1 wherein said pattern-forming material is chromium.

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4. (original) The method of claim 1 wherein said at least one ion implantation region has a positive electrical charge.

5. (original) The method of claim 1 wherein said at least one ion implantation region has a negative electrical charge.

6. (original) The method of claim 1 wherein said ions are present in said at least one ion implantation region at a concentration of about 10^{10} ions/cm².

7. (original) The method of claim 1 wherein said photomask is a binary intensity mask, a half-tone phase-shifting mask or an alternating phase-shifting mask.

8. (original) The method of claim 1 wherein said ions are boron, arsenic, phosphorous, aluminum or gallium ions.

9. (currently amended) A method of preventing electrostatic discharge damage to a photomask, comprising the steps of:

providing a mask substrate;

providing at least one ion implantation region in said mask

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substrate by implanting ions into said mask substrate;

providing a pattern-forming material on said mask substrate;
and

providing patterned light-transmissive exposure regions in
said pattern-forming material wherein at least one of said
patterned light-transmissive exposure regions comprises said at
least one ion implantation region.

10. (original) The method of claim 9 wherein said mask substrate
is quartz or calcium fluoride.

11. (original) The method of claim 9 wherein said pattern-forming
material is chromium.

12. (original) The method of claim 9 wherein said at least one
ion implantation region has a positive electrical charge.

13. (original) The method of claim 9 wherein said at least one
ion implantation region has a negative electrical charge.

14. (original) The method of claim 9 wherein said ions are

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present in said at least one ion implantation region at a concentration of about 10^{10} ions/cm².

15. (original) The method of claim 9 wherein said photomask is a binary intensity mask, a half-tone phase-shifting mask or an alternating phase-shifting mask.

16. (original) The method of claim 9 wherein said ions are boron, arsenic, phosphorous, aluminum or gallium ions.

17. (currently amended) An electrostatic discharge-resistant photomask comprising:

a mask substrate;

a pattern-forming material having light-transmissive exposure regions provided on said mask substrate; and

at least one ion implantation region having ions implanted into said mask substrate wherein said at least one ion implantation region comprises at least one of said light-transmissive exposure regions.

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18. (original) The photomask of claim 17 wherein said at least one ion implantation region has a positive electrical charge.

19. (original) The photomask of claim 17 wherein said at least one ion implantation region has a negative electrical charge.

20. (original) The photomask of claim 17 wherein said ions are boron, arsenic, phosphorous, aluminum or gallium ions.